work. We must acknowledge that in our examination of the injured, and in the expression of an opinion we have too often had in mind the thought of a possible claim for damages. Chiefs of departments must get the idea out of the minds of the average railroad doctor that the medical department is an adjunct to the claims department. No such thing was ever contemplated. Our relations with that department are only incidental and should not, in any way, influence our actions and opinions. The claim agent of to-day is not the hard-hearted monster of the early days, who sought, by intimidation and fraud to have those injured through fault of his employers, sign away, for a trifle, whatever rights they may have had. He is a gentleman seeking the truth and endeavoring to deal honestly and fairly with the injured, and when he asks for an opinion he wants and expects an honest, clean-cut statement of facts.

In our corporation work we must not lose sight of the high ideals which have ever characterized our profession. Let us not forget that it is first of all a humanitarian calling. Let us deal fairly with the injured, be he passenger, tresspasser or employe; give him that careful, painstaking care which is his right, regardless of all other considerations. In this way, and in this way only, may we hope to command the good opinion, not only of those committed to our care but of the corporation to which we are responsible, and have that sense of satisfaction which comes from having done the right as we see it.

We have not yet attained to the ideal in railway medical organization. The scope of its work should be broadened. We are too much concerned with caring for the sick and injured and give too little attention to that broader view embraced in preventive medicine. We are dealing with a large class of citizens, who look to us for instructions as to how to live. The average railroad employe considers himself apart from the general public, and what is said and done by health authorities does not appeal to him. While municipalities, through their health officers and commonwealths, through their boards of health, are seeking to educate the public in matters of sanitation and hygiene, we are content to set the broken bones and give a pill to those committed to our care.

The old saw that "a little knowledge is a dangerous thing" has lost its weight, and we all recognize the fact that a little knowledge of the right kind, particularly along the line of preventive medicine, is not only health-preserving but life-saving.

A recent editorial in THE CALIFORNIA STATE JOURNAL OF MEDICINE says: "It is noteworthy that of four orations, including the president's address, delivered at the last meeting of the American Medical Association, three had more or less to do with the education of the public in matters pertaining to public health and the work of the physician in securing sanitary reforms." And the editor urges that we drop the foolish robe of secrecy with which our profession has clothed itself and be frank and open with the lay public in the discussion of our work and our problems.

Dr. Thayer, in his oration on medicine, speaking of the education of the public, says, "It is the vital duty, not only of schools and associations, but of each member of the medical profession, to do his part in this great work."

What part are we, as the representatives of the great railways on this coast, to take in spreading the new gospel? How can this work best be done for that part of the public for which we are responsible, is an important question and should be considered by this association. Certainly no other organization of medical men has greater opportunities.

Our influence is not local but wide-spread. Through the railroads which we represent we are clothed with authority to put in motion forces which will not only effect better living on the part of the employes, but influence for good the community in which they reside.

The medical department is a necessary part of all well-organized railroads, and upon the staff there should be a medical man thoroughly skilled in the science of hygiene and sanitation. It would be well within the province of such a man to advise with the general manager as to hours of labor of employes, to inspect eating houses provided for employes, their sanitation and the character of the food served. At the end of divisions, where it is necessary to provide sleeping quarters, to see that they are properly constructed with proper ventilation and sanitation, with conveniences for bathing, reading rooms provided with good literature, games, etc. At central points meetings could be arranged with the employes and matters of common interest discussed with them; courses of instruction in "first aid to the injured" might well be included in the subjects to be considered. In fact, everything pertaining to the health and comfort, and, therefore, the efficiency of employes, should be under the direct supervision of the medical department, and that department held responsible for all preventable accidents and diseases.

I offer these few suggestions as indicating what may be done by this association in aiding this great work of educating the public and bringing about great sanitary reforms.

With a medical department thoroughly organized and working along the lines indicated, it will never be a question with the employe as to whether he contributes twenty-five cents or one dollar per month towards it maintenance.

TREATMENT OF TRAUMATIC RUPTURE OF THE URETHRA.*

By REXWALD BROWN, M. D., Santa Barbara.

(1) Following severe traumatic rupture of the urethra posterior to the peno-scrotal junction, unless immediate treatment be instituted, a grave condition

* Read before the Pacific Association of Railway Surgeons, San Francisco, August 29, 1908.

presents, appalling even to the medical attendant. Tissues adjacent to and even far removed, relatively speaking, from the severed urethral ends, become edematous and blackened, filled with extravasating blood and urine.

Death confronts the patient if exit is not found at once for the retained and decomposing urine. The physician realizes this all too well and in his haste to find passage way for the locked up waters he inserts into the urethra the rubber or metal catheter and attempts to force it into the bladder.

Nor perhaps is the physician to be blamed for undertaking this seemingly logical maneuver. There is a lack of clear detail concerning the management of this serious injury to be found in text-books devoted to genito-urinary surgery, and in nearly all that I have had access to the wording of the paragraphs on the treatment is such that catheterization is given prominent attention—in some even indicative attention. This is decidedly wrong, and such inferential teaching has undoubtedly in the past been responsible for deaths.

This rule should be followed without reserve—whenever there is good reason to suspect, or there is known positively to be, a rupture of the urethra a catheter or sound under no circumstances should be introduced into the urethra either as a diagnostic or as a therapeutic measure. There is a reason for this. Nor is it that false passages may be produced through the edematous and infiltrated tissue, always possible in this condition, and a serious accident in itself, but the bar should be placed because the passage of a catheter subjects the injured tissues to the insult of infection. And infection in this devitalized area can in a few short hours easily turn the patient's changes from a practically certain recovery, under proper treatment, to that border-line where death can close the picture.

Why does cellulitis here so speedily sink the scales? Because the infection is under constantly increasing tension—the extravasating urine and blood and rapidly forming pus find no runways to the surface from the confines of the slowly yielding layers of fascia and skin, tissue destruction and septic thrombus formation in the venous plexuses is very rapid, and toxic absorption increases proportionately with the tension. Toxemia, pyemia, septicemia, may therefore be the physician's contribution to a patient in the passing of a catheter when traumatic rupture of the urethra is present. But it will be said that the passing of a sterile catheter under the most aseptic precautions can not possibly be responsible for so disastrous a train of consequences. Yet it can—the trauma inflicted by the passage of a catheter along the urethra increases the virulence of or makes virulent the micro-organisms which have their habitat in the urethra—among these are diptheriæ bacilli, strepto-bacilli, and even streptococci. They are carried along to the area of laceration—what inviting pastures lie before them in the bruised, bleeding and urinous tissues!

Minor grades of urethral tear, manifesting only slight bleeding from the meatus, but little pain and difficulty in micturition, should be treated by watchful expectancy. Nature will repair the damage which is limited to lacerations not completely through the muscularis.

When the surgeon sees a patient shortly after a history of severe perineal traumatism, and there is great pain experienced, extreme difficulty in forcing a few drops of urine through meatus or utter inability to do so, hypogastric distress and symptoms of hemorrhage, immediate simple urethrotomy on a grooved staff should be performed. The two ends of the torn urethra should be approximated over a catheter by catgut sutures and the catheter fastened to be retained for a few days. The perineal wound should then be closed around a drainage tube to remain forty-eight or sixty hours.

When several hours have elapsed after the infliction of the injury, and there is great retention, extensive infiltration and extravasation of urine and blood, with patient appearing anxious, his condition bordering on shock, and perhaps death not a great way distant if relief is not obtained through the securing of free outlet from the bladder, which is the clear and urgent demand of the situation, do not further jeopardize life by attempting catheter passing, but at once deeply incise the perineum. The pent-up waters and blood will gush forth, and two results will be at once attained—the patient will be able to pass his urine, his life thereby being saved, and with the tension off the tissues destructive processes will be limited. Clotted blood can be easily turned out of the wound, and any fresh hemorrhage arrested. Tube drainage should be placed. After several days, when the parts have almost reached normal again, the wound may be reopened, the ends of the severed urethra found, and approximated as above over a catheter. This should be removed in five or six days. After healing is complete following all urethral ruptures, systematic sounding to prevent stricture should be instituted.

Following is the report of a present case:

On June 20, '08, J. L., a powerfully built man of fifty years, quartermaster on the steamship Curacoa of the Pacific Coast Steamship Co., shortly after the ship passed out of the Golden Gate bound for Mexico, was about to descend from the quarter to the saloon deck. He slipped on some brass plating at the head of the ladder, and in some unexplained manner was thrown across one side rail of the ladder striking on his perineum. Above him was an iron hand rail parallel with the side ladder rail, and curving to meet the ladder rail at the foot of the ladder. J. L. slid down the ladder rail and jammed up with terrific force on his perineum at the angle of junction of side and hand rail. He stated the pain was agonizing. He was able to walk away to his quarters. Soon he found he was unable to pass urine, and in a few hours noted his scrotum beginning to swell. The ship continued on her course, reaching Santa Barbara channel the next afternoon, June 21, some twenty-three hours after the accident. She put into port here, and J. L. was carried ashore. I saw him soon afterward at the hospital. He was suffering intensely and was very anxious and restless—pulse was 94 and temperature 99 degrees. Examination revealed a blackened, tense and bulg-

ing perineum, enormously distended and blackened scrotum and penis, swelling and discoloration in abdominal wall, reaching to umbilicus, and slight discoloration in buttocks. Diagnosis was made of rupture of the urethra anterior to the deep perineal fascia, with extravasation into the usual areas. Under ether, deep perineal section was done at once and a great quantity of urine and clotted blood spurted from incision. More clots were cleaned out and tube drainage placed in wound. An incision was also made into either side of scrotum, through which there was much discharge. Drainage was free for two or three days, and tissues rapidly assumed normal dimensions, though discoloration lasted a couple of weeks. Patient was able to pass his urine through perineum as necessity required. Six days later, on June 27, patient was again anesthetized and perineal wound was enlarged. A catheter was introduced through meatus and was guided into bladder, the proximal end of urethra being readily found. The urethra was almost completely severed just beneath symphysis, a narrow strip of superior wall only being intact. The ends were retracted about ¾ of an inch. They were approximated by catgut mattress sutures over the catheter which extended just into bladder. Perineum was closed leaving drainage through lower angle. Catheter was removed in six days after which patient voided his urine in the natural way, a little at times seeping through the perineal wound. He passed from observation in another week, having on day he left hospital taken a 30 French sound with ease. He was enjoined to see a physician regularly for some months to have sounds passed.

Dixon in *Surgery, Gynecology and Obstretics,* January, 1907, emphatically recommends immediate supra-pubic cystotomy with retrograde catheterization in all severe cases of traumatic rupture of the urethra. He claims this is the proper course to pursue because it will be, through perineal section, almost invariably impossible to find the proximal end of the torn urethra in the bloody edematous tissue —that this end will be retracted and inverted, so curled upon itself as to fill and block the lumen of the canal—that this inversion, together with blood clots between the severed ends, will interfere with the passage of urine from the bladder. Retention is therefore to be relieved, and the proximal end of the urethra found only through supra-pubic opening.

It seems to me this rather severe measure can be necessary but very rarely, and then not as first treatment. If extensive urinary and hemorrhagic infiltration be present, the prime indication is to save life and limit destructive processes. These ends are secured by simple perineal section, with perhaps the shelling out of clots. With the tension off the tissues and drainage free, the flow of urine from the bladder will have more than sufficient force to turn out again into the inverted proximal urethra.

Several days later will be found not too long a time following the injury to search for and repair the urethra, the distal end of which is always found by catheterization through the penis. The proximal end should be readily found in tissues which are practically normal again by following the perineal sinus to the bottom. If it should be found impossible now to locate the desired end, then only is retrograde catheterization an indicated procedure.

In conclusion, I wish to reiterate that catheterization as a diagnostic or as a therapeutic measure in traumatic rupture of the urethra is to be condemned.

Discussion.

Dr. Huntington: I approve of practically every point made in this paper. First I want to allude again to the matter of tension, a thing in my mind for many years. I do not think we can possibly overrate its importance, nor over estimate the consequences ensuing upon tension. With regard to the drainage of extravasated urine, it has never been my plan to attempt to repair a urethra as a first effort at relief. I think it a better plan to do a perineal section and establish free drainage, letting the patient rest a few days. For those who have not ever attempted this undertaking I will say that the joining of the severed urethra is not so difficult as it might seem. The urethra lies very adjacent to the surface. Putting the patient in a proper position enables one to reach the seat of the injury and the end can be picked up. I insert a catheter during the operative procedure first through the penal portion, then through the bladder. This gives a direct line between the proximate and the distal ends of the urethra and they can be approximated. You will be surprised to see the elasticity in the distal portion of the urethra and how it will lend itself to repair.

Dr. Brown, closing: I will only say a word further. If it is found difficult to find the proximal end, the patient being under ether, allow him to wake up and ask him to pass a little urine. You will then find the proximal end of the urethra by watching the dropping of the urine.

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must be given by the bowels. Gastric lavage is recommended for nausea and vomiting. In all cases seen before there is evidence of spread of the disease beyond the appendix, an immediate operation by a capable surgeon is advised to prevent complications as well as to save life.

I think most physicians and surgeons of California are in favor of operation at once, or at the end of thirty-six or forty-eight hours.

The advocates of an early operation claim that by operating early and thus making sure that infection has not extended beyond the appendix, the surgical death rate would be much below the medical one, which we have seen to be put by one of the best authorities, at 14 per cent. The surgeons of this class hold that the death rate would not exceed four or five per cent when cases of gangrene and perforation and suppurative peritonitis are operated on, and goes so far as to say that a surgical death rate of two per cent would be all.

Let us examine this claim that the medical death rate will be much lowered by an early surgical interference. It will be seen to stand or fall very largely upon the meaning of the word early. The question at once arises how many cases are really seen within the first twenty-four or thirty-six hours. Here the patient very often goes on working for days after he has warning by pain, and even sometimes with a lump in his right iliac fossa.

A patient from carelessness or a desire to make the best of his case from dread of operation may misrepresent his symptoms as just beginning. In reality this man has had for a day or two pains or